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EXAMINER

BIBBINS, LATANYA

ART UNIT PAPER NUMBER

2633

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/694,946	Applicant(s) OGASAWARA, MASAKAZU	
	Examiner LaTanya Bibbins	Art Unit 2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/11/05 & 10/29/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following minor informalities:
 - The term “**signal** information recording layer” used in paragraphs [0017], [0018], and [0019] is inconsistent with the term “**single** information recording layer” used throughout the disclosure.
 - The reference to “**DS1**” in paragraph [0049] is inconsistent with “**DK1**” used throughout the disclosure and in Figure 4A.
 - The reference to “step **510**” in paragraph [0062] is inconsistent with “step **S10**” as illustrated in Figure 6.

Appropriate correction is required.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “distance from a beam-incidence-side surface of the medium to the corresponding-information recording layer” as recited in claims 4, 5, 10, and 11 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

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number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. ***Claims 7, 13, and 14*** are objected to because of the following informalities:

- The term "***signal*** information recording layer" used in the claims is inconsistent with the term "***single*** information recording layer" used throughout the disclosure.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. **Claims 6 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claims 6 and 12 respectively recite a multilayer type information recording medium and a recording and reproducing apparatus which uses such a recording medium both comprising a plurality of adjustment layers located between the single corresponding-information recording layer and the plurality of information recording layers and located continuously to the plurality of information recording layers, respectively, with the same level between each adjustment layer and the information recording layer kept.

It is unclear, based on the claim language (read in light of the specification), exactly where applicant intends for the plurality of adjustment layers to be located in relationship to the plurality of recording layers and the single corresponding-information recording layer. Therefore, in the interest of compact prosecution, claims 6 and 12 are being interpreted as a multilayer type of information recording medium and a recording and reproducing apparatus which uses such a recording medium with a plurality of adjustment layers located between the single corresponding-information recording layer and the plurality of information recording layers.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. **Claim 14 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.**

Claim 14 is drawn to a “program” *per se* as recited in the preamble and as such is non-statutory subject matter. See MPEP §2106.IV.B.1.a. Data structures not claimed as embodied in computer readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g. Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held non-statutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed computer readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs are not physical “things.” They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. ***Claims 1-3 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Asada (EP 1,187,110 A1).***

Regarding claim 1, a multilayer type of information recording medium (see column 3 paragraph [0016] and Figure 1A) comprising: a plurality of information recording layers into each of which information is recordable (see column 3 lines 39-42); and a single corresponding-information recording layer into which information corresponding to the information recorded in the information recording layers is recordable (see column 5 lines 10-13).

Regarding claim 2, a multilayer type of information recording medium, wherein the corresponding information is control information for controlling either recording or reproduction of the information into and from each of the information recording layers (see column 4 lines 16-22).

Regarding claim 3, a multilayer type of information recording medium, wherein the corresponding-information recording layer is provided with a reflection layer to reflect an optical beam radiated to optically read the corresponding information (see column 3 lines 29 and 30 and Figure 1A element 13).

9. **Claims 7, 13, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by lida (US Patent Number 6,424,605 B1).**

Regarding claim 7, an information recording and reproducing apparatus for selectively recording or reproducing information into or from an information recording layer consisting of either a signal information recording layer of a monolayer type of information recording medium or one of a plurality of information recording layers of a multilayer type of information recording medium, the apparatus comprising: a first setting device (Figure 3 element 30) configured to initialize operating parameters to be appropriate for either the recording or reproduction of the information into or from the information recording layer of the monolayer type of information recording medium (column 12 lines 26-31 and Figure 9 steps S101 and S102); a determination device (Figure 3 element 30) configured to determine whether or not an information recording medium loaded currently in the information recording and reproducing apparatus is the monolayer type of information recording medium or the multilayer type of information recording medium (column 11 lines 59-64), the determination being carried out after the initialization of the operating parameters (see Figure 9); a first recording/reproducing device (see column 7 lines 13 and 14) configured to start recording or reproducing the information into or from the information recording layer of the monolayer type of information recording medium (Figure 1A) on the basis of the initialized operating parameters (column 12 lines 26-31), when the determination device (Figure 3 element 30) determines that the currently loaded information recording medium is the monolayer type of information recording medium; a second setting device (Figure 3 element 30)

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configured to change the operating parameters to be appropriate for either the recording or reproduction of the information into or from the information recording layer of the multilayer type of information recording medium, when the determination device determines that the currently loaded information recording medium is the multilayer type of information recording medium (column 14 lines 28-31); and a second recording/reproducing device (see column 7 lines 6 and 7) configured to start recording or reproducing the information into or from the information recording layer of the multilayer type of information recording (Figure 1C) medium on the basis of the changed operating parameters.

Regarding claim 13, an information recording and reproducing method for selectively recording or reproducing information into or from an information recording layer consisting of either a signal information recording layer of a monolayer type of information recording medium or one of a plurality of information recording layers of a multilayer type of information recording medium, the method comprising the steps of: initializing operating parameters to be appropriate for either the recording or reproduction of the information into or from the information recording layer of the monolayer type of information recording medium (column 12 lines 26-31 and Figure 9 steps S101 and S102); determining whether or not an information recording medium loaded currently is the monolayer type of information recording medium or the multilayer type of information recording medium, the determination being carried out after the initialization of the operating parameters (Figure 9 step S108); first starting recording or reproducing the information into or from the information recording layer of the

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monolayer type of information recording medium on the basis of the initialized operating parameters, when it is determined that the currently loaded information recording medium is the monolayer type of information recording medium (column 14 lines 14-16 and Figure 10 step S115); changing the operating parameters to be appropriate for either the recording or reproduction of the information into or from the information recording layer of the multilayer type of information recording medium, when it is determined that the currently loaded information recording medium is the multilayer type of information recording medium (column 14 lines 28-31 and Figure 10 step S117); and second starting recording or reproducing the information into or from the information recording layer of the multilayer type of information recording medium on the basis of the changed operating parameters (column 14 lines 28-31 and Figure 10 step S117).

Regarding claim 14, program enabling a computer to function for selectively recording or reproducing information into or from an information recording layer consisting of either a signal information recording layer of a monolayer type of information recording medium or one of a plurality of information recording layers of a multilayer type of information recording medium, the computer providing the functions of: initializing operating parameters to be appropriate for either the recording or reproduction of the information into or from the information recording layer of the monolayer type of information recording medium (column 12 lines 26-31 and Figure 9 steps S101 and S102); determining whether or not an information recording medium loaded currently is the monolayer type of information recording medium or the multilayer type of information recording medium, the determination being carried out after the

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initialization of the operating parameters (Figure 9 step S108); first starting recording or reproducing the information into or from the information recording layer of the monolayer type of information recording medium on the basis of the initialized operating parameters, when it is determined that the currently loaded information recording medium is the monolayer type of information recording medium (column 14 lines 14-16 and Figure 10 step S115); changing the operating parameters to be appropriate for either the recording or reproduction of the information into or from the information recording layer of the multilayer type of information recording medium, when it is determined that the currently loaded information recording medium is the multilayer type of information recording medium (column 14 lines 28-31 and Figure 10 step S117); and second starting recording or reproducing the information into or from the information recording layer of the multilayer type of information recording medium on the basis of the changed operating parameters (column 14 lines 28-31 and Figure 10 step S117).

lida uses a system controller (Figure 3 element 30) to perform the functions described above (see column 12 lines 23-25 and Figure 3 element 30). It is an inherent property of a controller to possess a program in order to execute functions.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Asada as applied to claims 1-3 above, and further in view of Horita (US Patent Number 6,469,965 B1).

Regarding claim 4, Asada discloses a multilayer type of information recording medium (see column 3 paragraph [0016] and Figure 1A). Further, Asada teaches that the layer information region can be formed on either the first or second recording layers (see paragraph [0032]). Asada, however, fails to teach a distance from a beam-incidence-side surface of the medium to the corresponding-information recording layer is the same as a distance from a beam-incidence-side surface of a monolayer type of information recording medium provided with a single information recording layer for recording the information to the single information recording layer. Horita, on the other hand, teaches a single layer disc (see column 5 lines 48-50 and Figure 3B) and a multilayer disc (see column 5 lines 65-67 and Figure 3C) with recording layers formed at a distance of 0.6 mm from the disc face (a laser beam entrance surface).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the multilayer information recording medium of Asada while implementing the layering strategy of Horita. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to reproduce sounds high in quality (see Horita column 6 lines 32 and 33).

12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Asada and Horita as applied to claims 1-4 above, and further in view of Yasuda et al. (US Patent Number 6,221,455 B1).

Regarding claim 5, Asada and Horita teach a multilayer type of information recording medium but fail to teach that the distance from the beam-incidence-side surface of the medium to the corresponding-information recording layer is 100 μm . Yasuda, however, teaches a multilayer type of information recording medium (Figure 1 element 1) with a first information recording layer (Figure 1 element 6) and a light-transmitting layer (Figure 1 element 7) whose laser light is illuminated from the light-transmitting layer in order to record and/or reproduce information signals (column 4 lines 58-65). Yasuda also teaches a thickness of the light-transmitting layer set to 10 to 177 μm (column 6 lines 5 and 6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the multilayer type of information recording medium of Asada and Horita with the layering strategy of Yasuda. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in consideration that a range of laser light from the currently used red laser to the blue laser expected to be used in the future is to be dealt with (Yasuda column 6 lines 2-4).

13. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Asada as applied to claims 1-3 above, and further in view of Kitaura et al (US PGPub Number 2002/0122366 A1).

Regarding claims 6, see the teachings of Asada above. Asada discloses a multilayer type of information recording medium comprising a single corresponding-information recording layer (see column 5 lines 10-13) and a plurality of information recording layers (see column 3 lines 39-42). Asada, however, fails to teach a plurality of adjustment layers located between the single corresponding-information recording layer and the plurality of information recording layers. Kitaura, on the other hand, teaches adding at least one reflectance adjustment layer to the information layer and that the reflectance adjustment layer can be composed of a plurality of sub-layers (paragraph [0014]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate at least one reflectance adjustment layer, as taught by Kitaura, into the multilayer information recording medium of Asada. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings so that a reflectance after recording is lower than that before recording (Kitaura paragraph [0014]).

14. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over lida as applied to claim 7and 13 above, and further in view of Asada.

Regarding claim 8, lida discloses an information recording and reproducing apparatus (Figure 3) that uses a multilayer type of information recording medium (Figure 1C). lida, however, fails to teach a multilayer type of information recording medium that comprises a single corresponding-information recording layer into which information corresponding to the information recorded in the information recording layers is recordable. Asada, on the other hand, teaches a multilayer type of information recording medium (see column 3 paragraph [0016] and Figure 1A) that comprises a single corresponding-information recording layer into which information corresponding to the information recorded in the information recording layers is recordable (see column 5 lines 10-13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the multilayer information recording medium of Asada in the information recording and reproducing apparatus of lida. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to decrease the frequency of access to specific recording layers by knowing if recording in a specific recording layer is prohibited without adjusting the focal position (see Asada column 5 lines 47-53).

Regarding claim 9, see the teachings of lida above. lida does not teach an information recording and reproducing apparatus wherein the corresponding-information recording layer is provided with a reflection layer to reflect an optical beam radiated to optically read the corresponding information layer. Asada, however, discloses an information recording and reproducing apparatus, wherein the corresponding-

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information recording layer is provided with a reflection layer to reflect an optical beam radiated to optically read the corresponding information (see column 3 lines 29 and 30 and Figure 1A element 13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the multilayer information recording medium of Asada in the information recording and reproducing apparatus of Iida. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to decrease the frequency of access to specific recording layers by knowing if recording in a specific recording layer is prohibited without adjusting the focal position (see Asada column 5 lines 47-53).

15. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iida and Asada as applied to claims 7-9 above, and further in view of Horita (US Patent Number 6,469,965 B1).

Regarding claim 10, see the teachings of Iida and Asada above. Iida and Asada fail to teach a distance from a beam-incidence-side surface of the medium to the corresponding-information recording layer is the same as a distance from a beam-incidence-side surface of a monolayer type of information recording medium provided with a single information recording layer for recording the information to the single information recording layer. Horita, on the other hand, teaches a single layer disc (see column 5 lines 48-50 and Figure 3B) and a multilayer disc (see column 5 lines 65-67

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and Figure 3C) with recording layers formed at a distance of 0.6 mm from the disc face (a laser beam entrance surface) .

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the multilayer information recording medium of Asada while implementing the layering strategy of Horita. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to reproduce sounds high in quality (see Horita column 6 lines 32 and 33).

16. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over lida, Asada, and Horita as applied to claims 7-10 above, and further in view of Yasuda et al. (US Patent Number 6,221,455 B1).

Regarding claim 11, lida, Asada, and Horita teach an information recording and reproducing apparatus, but fail to teach that the distance from the beam-incidence-side surface of the medium to the corresponding-information recording layer is 100 μm . Yasuda, however, teaches a recording and reproducing apparatus with a multilayer type of information recording medium (Figure 1 element 1) with a first information recording layer (Figure 1 element 6) and a light-transmitting layer (Figure 1 element 7) whose laser light is illuminated from the light-transmitting layer in order to record and/or reproduce information signals (column 4 lines 58-65). Yasuda also teaches a thickness of the light-transmitting layer set to 10 to 177 μm (column 6 lines 5 and 6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the information recording and reproducing apparatus of Iida, Asada, and Horita with the multilayer type of information recording medium of Yasuda. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in consideration that a range of laser light from the currently used red laser to the blue laser expected to be used in the future is to be dealt with (Yasuda column 6 lines 2-4)

17. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iida and Asada as applied to claims 7-9 and 13 above, and further in view of Kitaura et al (US PG Pub Number 2002/0122366 A1).

Regarding claims 12, see the teachings of Iida and Asada above. Iida and Asada disclose an information recording and reproducing apparatus (Iida Figure 3) that uses a multilayer type of information recording medium (Iida Figure 1C) while Asada discloses a multilayer type of information recording medium comprising a single corresponding-information recording layer (see Asada column 5 lines 10-13) and a plurality of information recording layers (see Asada column 3 lines 39-42). Iida and Asada, however, fail to teach a plurality of adjustment layers located between the single corresponding-information recording layer and the plurality of information recording layers. Kitaura, on the other hand, teaches adding at least one reflectance adjustment layer to the information layer and that the reflectance adjustment layer can be composed of a plurality of sub-layers (paragraph [0014]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate at least one reflectance adjustment layer, as taught by Kitaura, into the recording and reproducing apparatus of Iida and Asada. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings so that a reflectance after recording is lower than that before recording (Kitaura paragraph [0014]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaTanya Bibbins whose telephone number is (571) 270-1125. The examiner can normally be reached on Monday through Friday 7:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shanon Foley can be reached on 571 272-0898. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


LaTanya Bibbins
Patent Examiner


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